

**Notice of Allowability**

Application No.

10/087,322

Examiner

Jay M. Patidar

Applicant(s)

FREDERICK ET AL.

Art Unit

2862

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--**

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to petition decision made on 6/7/06.
2. ☒ The allowed claim(s) is/are 1-3 and 6-21.
3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some\* c) ☐ None of the:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.  
**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.  
(a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached  
1) ☐ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_\_.  
(b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.  
Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

**Attachment(s)**

- |  |   |
|--|---|
| 1. <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                | 5. <input type="checkbox"/> Notice of Informal Patent Application                     |
| 2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 6. <input type="checkbox"/> Interview Summary (PTO-413),<br>Paper No./Mail Date _____ |
| 3. <input type="checkbox"/> Information Disclosure Statements (PTO/SB/08),<br>Paper No./Mail Date _____    | 7. <input checked="" type="checkbox"/> Examiner's Amendment/Comment                   |
| 4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit<br>of Biological Material | 8. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance  |
|  | 9. <input type="checkbox"/> Other _____   |

1. This communication is in response to petition decision made on June 7, 2006.
2. The holding of abandonment is hereby withdrawn.
3. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Mr. Keith Frantz on December 12, 2006.

The application has been amended as follows:

**Rewrite claim 1 as:**

---A sensor adapted to sense the angular position of a rotatable shaft, the sensor comprising:

a bipolar annular magnet connected for rotation coaxial with the shaft; the annular magnet having poles located 180 degrees apart, wherein said magnet is magnetized by inserting an iron core through its inside diameter during magnetization thereof to obtain enhanced linearity of magnetic flux density as the

magnet rotates about its center axis through approximately +/- 60 degrees from a neutral position equi-distance between the poles;

a first stationary magnetic field sensor element and a second stationary magnetic field sensor element spaced from said first sensor element positioned to sense the change in magnetic flux as the magnet rotates and adapted to provide output signals proportional to the magnetic flux sensed; and

an amplifier circuit to provide a differential output voltage that varies linearly with shaft rotation of approximately +/- 60 degrees from said neutral position and having a magnitude proportional to the angular position of the shaft.---

**Rewrite claim 3 as:**

---The sensor as defined in claim 1 further comprising said second magnetic field sensor element spaced 180 degrees from said first sensor element.---

**Cancel claims 4-5.**

**In claim 6**, line 1, change "claim 5" to ---claim 3---;

**In claim 7**, line 1, change "claim 5" to ---claim 3---;

**In claim 8**, line 1, change "claim 5" to ---claim 3---;

**In claim 9, line 4**, change “and having been magnetized according a method comprising the step of temporarily” to ---, wherein said magnet is magnetized by---;

**In claim 21, line 4**, change “and having been magnetized according a method comprising” to ---, wherein said magnet is magnetized by---;

**Cancel claim 22.**

4. The following is an examiner's statement of reasons for allowance: The prior art fails to show an angular position sensing apparatus wherein a bipolar annular magnet connected for rotation coaxial with the shaft; the annular magnet having poles located 180 degrees apart, wherein said magnet is magnetized by inserting an iron core through its inside diameter during magnetization thereof to obtain enhanced linearity of magnetic flux density as the magnet rotates about its center axis through approximately +/- 60 degrees from a neutral position equidistance between the poles in combination with other elements as set forth in the claim.

5. Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

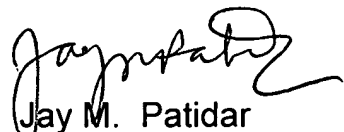
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jay M. Patidar whose telephone number is 571-272-2265. The examiner can normally be reached on M-Thur 8:00-6:30.

The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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A handwritten signature in black ink, appearing to read "Jay M. Patidar", with a stylized flourish at the end.

Jay M. Patidar  
Primary Examiner  
Art Unit 2862  
December 13, 2006